Mini Review

Nursing Care Coordination for Bariatric Metabolic Surgery

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Abstract

Metabolic Syndrome (MS) is the aggregation of a group of diseases accompanied by insulin resistance, central obesity, hypertension, hypertriglyceridemia, low high-density lipoprotein cholesterol, decreased glucose tolerance, type 2 diabetes mellitus, etc. With the maturation of minimally invasive surgical techniques and the development of laparoscopic bariatric surgery due to less bleeding, less trauma, and accurate results, postoperative pain is light, and recovery is fast. With the continuous maturation and development of minimally invasive surgical techniques, laparoscopic weight loss surgery has become the best treatment for morbid obesity due to less bleeding, less trauma, less pain, quicker recovery, better quality of life, and the apparent advantages of laparoscopic gastrointestinal diversion surgery as the best surgery for metabolic syndrome.

Keywords: Nursing care; Bariatric surgery; Type-2 diabetes; Weight loss

Introduction

Metabolic Syndrome (MS) is the aggregation of a group of diseases accompanied by insulin resistance, central obesity, hypertension, hypertriglyceridemia, low high-density lipoprotein cholesterol, decreased glucose tolerance, type 2 diabetes mellitus, etc. Weight loss metabolic surgery is characterized by less trauma, quicker recovery, and good efficacy, and nursing care is reported as follows.

Care Coordination

After checking the patient's information, the patient was placed in the lying position, intravenous access was established, general intravenous anesthesia was given, and the patient was fixed correctly [1]. Routine disinfection and toweling were performed, a visual extended puncture device was inserted, and a CO2 pneumoperitoneum was established to reveal the operative field. After laparoscopic exploration, four other Trocars were inserted, and a Roux-en-Y gastric bypass was performed. After the end of the operation, the gastrointestinal anastomoses and the severed ends of the stomach and intestine were checked to see if there was no active bleeding, and then the abdominal cavity was flushed, and drains were placed [2,3]. Excluding the residual abdominal cavity, the abdominal cavity was drained. Remove the residual gas from the abdominal cavity, suture the puncture ports, count the gauze and instruments, and then close the abdomen layer by layer; cover the incision with a sterile dressing and send the patient back to the hospital.

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Coordination of Traveling Nurses

Pre-operative visit: Patients in this group have a strong desire for treatment, but due to the lack of understanding of the new technology and surgery as a stressor, it is easy to appear nervous, fearful, and other psychological stress reactions [4,5]. One day before the operation, visit the patient, explain the pre-operative precautions, learn about the patient's general condition, medical history, and relevant test results, establish a good relationship between the patient and nurse, introduce the surgical method in detail, the advantages, safety, success rate, the development of clinical and related precautions; pay attention to the general condition of the patient, medical history and relevant test results, and establish a good relationship between the patient and the nurse [6]. The patient should be told to pay attention to the umbilical cleanliness, familiarize with the surgical environment, have a preliminary understanding of the operation, relieve tension and anxiety, and increase the patient's sense of security.

Preparation of the Instruments

Prepare the essential operation items to be used in the operation; check the negative pressure suction device one day before the operation and the luminal equipment system: 2 monitors, light source machine, camera, pneumoperitoneum machine, ultrasonic knife, high-frequency scalpel, abdominal cavity irrigator, etc., [7]. Prepare the necessary instruments for the luminal scope: 3.10 mm Trocars, 2.5mm Trocars, two curved pincers, two intestinal pincers, two grasping pincers, 2 Hemolok pincers, and 2 Hemolok pincers. Hemolok clamps 2, needle holder, irrigator head, suction head, titanium clamp, biological clamp, scissors, thermos cup, electrocoagulation hook, lens, cutting closure device nail box (diameter 45 mm and 60 mm). 2.1.3 The anesthesia warmly receives the patient, actively eliminates their fear, verifies the patient's information, and strictly implements the system of checking the establishment of more than two venous channels connecting the extension tube [8]. Then, the patient can receive the patient's

anesthesia. The patient will have a good understanding of the patient's condition, and the patient will have a better understanding of the patient's condition and health. The patient will better understand the patient's health. Establish two or more venous channels, connect the extension tubes, replenish fluids appropriately 20~30 min before the induction of anesthesia, 5~10 mL/kg of crystalloid is appropriate, ensure the fluids are smooth, and assist the anesthesiologist in tracheal intubation.

Proper Placement of Patients

Instruct and encourage the patient to adjust the position on the operating bed; the patient should be lying down, legs apart in a zigzag shape, forming an angle of $<90^\circ$, with the head high and feet low position of about $10\sim15^\circ$, fix the patient appropriately to ensure the comfort and stability, pay attention to the patient's warmth, and put jelly pads on the pressurized parts of the body to avoid pressure ulcers. Return to the lying position promptly after the operation, and return the patient to the awakening room [9].

Installation of Instruments

Please turn on the power supply of each part, connect the laparoscopic system and graphic workstation, check the performance of each laparoscopic instrument, and make sure that the CO₂ gas source is sufficient; place the negative electrode plate of the electrosurgical knife at the gastrocnemius muscle of the patient's calf, away from the metal objects, to prevent electric burns; connect the fiber-optic cable, ultrasonic knife cable, pneumoperitoneum tube, monopole cable, and irrigation and suction tubes to the corresponding instruments after sterilizing the sheet, turn on the power supply to make it in the standby state, avoiding the formation of corners and knots; according to the need of surgery, connect the fiber-optic cable, ultrasound knife cable, pneumoperitoneum tube, monopole cable and rinse and suction tube to the corresponding instruments; turn on the power supply to make them in the standby state, avoiding the formation of corners and knots [10,11]. Knotting: according to the operation, need to control the power switch, debugging ultrasonic knife standby; maintain the initial pneumoperitoneum pressure at 13~15 mmHg, flow rate moderate, coagulation power at 50~60 W, according to the patient's specific situation for appropriate adjustment; with handwashing nurses to count the instruments and auxiliary materials and record in detail; intraoperative monitoring of the patient's condition promptly.

Observation of the Patient's Condition

After anesthesia, the patient's intra-abdominal pressure increases, and carbon dioxide pneumoperitoneum causes hemodynamic changes, which increases the heart rate, peripheral resistance, and central venous pressure and decreases the cardiac output [12,13]. During the operation, we should closely observe the vital signs, blood gas analysis, and the changes in central venous pressure. The effect of the pneumoperitoneum on the hemodynamics of the body circulation and the hemodynamics of the local organs increases as the pressure of the pneumoperitoneum increases. Therefore, we should closely observe the pneumoperitoneum when adjusting the pressure and the flow rate. Changes in intra-abdominal pressure should be closely observed so that the pneumoperitoneum pressure is maintained at 10~15 mmHg (1 mmHg=0.133 kPa). If it is impossible to shorten the duration of pneumoperitoneum and not affect the surgical field of view, reduce the carbon dioxide pneumoperitoneum as much as possible to reduce the incidence of nausea and vomiting after surgery. At the end of the surgery, the residual abdominal gas should be discharged as much as possible to minimize the absorption of carbon dioxide in the abdominal cavity after the operation.

Postoperative Instrumentation

After the end of the operation, disassemble the cavity mirror instrumentation of each joint with 1:400 multi-enzyme soak 3~5 min ultrasonic cleaning 5 min after high-pressure water gun rinsing endoscopic cavity running water washing and drying the mirror cavity with a high-pressure air gun blowing packing-ethylene oxide or plasma disinfection standby [14].

With the increasing maturity of minimally invasive surgery, weight loss surgery under the laparoscope will become the focus of the future development of this type of surgery. Surgical nurses should also have the corresponding surgical knowledge and constantly update the concept of skilled mastery of all kinds of operating instruments under the laparoscope, familiar with the surgical steps to understand the continuous development of new surgical techniques and new knowledge, to facilitate the development of the work of the increasingly improved medical needs. Pre-operative tour nurses should be aware that with the increasingly perfect minimally invasive technology, laparoscopy is the most important and effective way to improve the quality of life [15,16]. As minimally invasive technology becomes more and more perfect, laparoscopic weight loss and metabolic surgery will become the center of gravity of the development of this type of surgery. At the same time, the application of advanced laparoscopic equipment puts forward higher requirements for operating room nurses. Scientific, safe, timely, effective, and tacit cooperation can guarantee the smooth progress of the surgery, which is an essential guarantee of weight loss and metabolic surgery for treating obesity and metabolic syndrome [17,18].

Nurses need to learn the relevant theoretical knowledge and carry out the corresponding operation training, familiar with the relevant parts of laparoscopic dissection of the surgery. Nurses need to learn the relevant theoretical knowledge and conduct corresponding operation training, familiarize themselves with the relevant parts of the laparoscopic anatomy, surgical steps, and the essentials of cooperation, master the performance of instruments and apparatus, accurately adjust the patient's position, keep the everyday work of the instrument, grasp the surgical process, timely provision of intraoperative supplies, and actively control complications, standardize the operation of the surgical instruments, clean and maintain the instruments on time to ensure that the equipment is in the best condition.

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